

FRONT VIEW Foundation detail for break away base, with anchor bolt connection

- 2" Cl.

Min. 2 threads exposed →Flat washer hex head, Base plate Elevation of finished and torque. foundation -Leveling nut Max. 1" - Anchor bolt ANCHOR BOLT DETAIL

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	FOUNDATION DIAMETER	POST SIZE	ANCHOR BOLTS		
			SIZE	NO.	A
Γ	1'-4''	3 ½" x 4"	3/4" x 2'-6"	4	2''
Γ	1'-9''	5''	1'' x 2'-6''	4	2 1/2"
	1'-9''	6''	1'' x 2'-6''	4	2 3/4"
Γ	2'-0''	8''	1 1/4" x 2'-6"	4	3 1/4"
Г	2'-4"	10''	1 ½" x 2'-6"	4	3 1/2"
Γ	2'-6"	12''	1 ½" x 2'-6"	4	3 1/2"

Keeper Plate - A keeper plate shall be used.

Aluminum Base Plate Washers - When the base plate is fabricated from aluminum, the washers shown as tack welded to base shall be aluminum.

Fuse Joint Cuts - Steel posts may be cut after galvanizing and cut surface treated with an approved zinc solder meeting the Federal Specification O.G-93 (stick only) or the cut may be galvanized after fabrication. Aluminum posts will not require treatment

Foundation data obtained from standard D-754-5.

4" vertical clearance of breakaway base. The 4" x 60" measurement shall be made above and below post location and also back and ahead of post

Foundation shall be formed 6" into ground. Forms shall be removed.

ASSEMBLY PROCEDURE

- 1. Assemble post to stub with bolts and with one flat washer between base plates and keeper plate.
- 2. Shim as required to plumb post.3. Tighten all bolts the maximum possible with 12" to 15" wrench to bed washers and shims and to clean bolt threads, then loosen.
- 4. Retightén bolts in a systematic order to prescribed torque. (see table)
- Loosen each bolt and apply thread locking liquid resin. The liquid locking resin shall be "Locktite" manufactured by Locktite Corporation or equal. The thread locker shall secure the entire assembly from vibration, ressure and corrosion. The thread locker shall fill the gap's between the thread and the mating surface to form solid one part assemblies.
- 6. Retighten each bolt to prescribed torque in the same order as initial retightening.

ROUND METAL POSTS							
DIMENSIONS			PROPERTIES				
NOMINAL DIAMETER IN.	OUTSIDE DIAMETER IN.	INSIDE DIAMETER IN.	WALL THICKNESS IN.	WEIGHT PER FOOT POUND	MOMENT OF INERTIA IN.4	CROSS SECT.AREA IN.2	SECTION MODULUS IN.2
	STEEL POSTS						
3 1/2	4.000	3.548	.226	9.11	4.788	2.680	2.394
4	4.500	4.026	.237	10.79	7.233	3.174	3.215
5	5.563	5.047	.258	14.62	15.16	4.300	5.449
6	6.625	6.065	.280	18.97	28.14	5.581	8.495
8	8.625	8.071	.277	24.70	63.35	7.265	14.69
10	10.750	10.192	.279	31.20	125.9	9.178	23.42
12	12.750	12.090	.330	43.77	248.5	12.88	38.98
12	12.750	12.000	.375	49.56	279.3	14.58	43.81
		А	LUMINUM	POSTS			
3 1/2	4.000	3.548	.226	3.151	4.788	2.680	2.394
4	4.500	4.026	.237	3.733	7.232	3.174	3.214
5	5.563	5.047	.258	5.057	15.16	4.300	5.451
6	6.625	6.065	.280	6.564	28.14	5.581	8.496
8	8.625	8.071	.277	8.543	63.35	7.265	14.69
8	8.625	7.981	.322	9.878	72.49	8.399	16.81
10	10.750	10.192	.279	10.79	125.8	9.178	23.41
10	10.750	10.136	.307	11.84	137.4	10.072	25.57
10	10.750	10.020	.365	14.00	160.7	11.908	29.90
12	12.750	12.090	.330	15.14	248.5	12.88	38.98
12	12.750	12.000	.375	17.14	279.3	14.579	43.81
12	12.750	11.750	.500	22.63	361.5	19.242	56.71
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	REVISIONS	and sealed by		
09-15-04	CHANGE Forming foundation General revisions PE Stamp added	MARK S GAY DOS, Registration Number PE-4518, on 12/01/04 and the original document is stored at the Nor Dakota Department of Transportation		

KEEPER PLATE DETAIL Washer dia. Keeper plate shall be placed above the center washer between the top and bottom slip bases. galvanized after fabrication conforming to ASTM A-446 grade "A" 28 gauge and keeper plate shall be fabricated from material

See standard D-754-3 for base data table.

Furnish 2 ea. .012"+ thick and

2 ea. .032"± shims per post.

Shims shall be fabricated from brass shim stock or strip

SHIM DETAIL

conforming to ASTM-B36.

F+ Washer dia.

Bolt dia.

+1/16'

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Tack weld— washer to		Direction of traffic	
base plate	Sign post-	HS bolt with hex h ───────────────────────────────────	
Remove all — galvanizing runs	Slip Base	washers. See table	e for
or beads in washer area		bolt diameter and See bolting proces	
		1	
	Post	= 20	
	W	M	
⋖			FO D
_•1		\ 	
	Leveling Nut -	Finished	
	Anchor Bolt ELEVATION	grade	
Т	wo or more post sign and anch for signs with less than 8'	nor bolt connection post spacing	

TYPE C

Leveling Nut -

ELEVATION

TYPE B

Two post sign and anchor bolt connection for signs with less than 8' post spacing

Finished

arade

-Anchor Bolt